

DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

Air Quality Control Commission

REGULATION NUMBER 7

CONTROL OF OZONE VIA OZONE PRECURSORS AND CONTROL OF HYDROCARBONS VIA OIL AND GAS EMISSIONS

(EMISSIONS OF VOLATILE ORGANIC COMPOUNDS AND NITROGEN OXIDES)

5 CCR 1001-9

II.B. Exemptions

Emissions of the organic compounds listed as having negligible photochemical reactivity in the common provisions definition of Negligibly Reactive Volatile Organic Compound are exempt from the provisions of this regulation.

(State Only) Notwithstanding the foregoing exemption, hydrocarbon emissions from oil and gas operations, including methane and ethane, are subject to this regulation as set forth in Sections XVII. and XVIII.

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XVII. (State Only, except Section XVII.E.3.a. which was submitted as part of the Regional Haze SIP) Statewide Controls for Oil and Gas Operations and Natural Gas-Fired Reciprocating Internal Combustion Engines

XVII.A. (State Only) Definitions

XVII.A.1 “Air Pollution Control Equipment,” as used in this Section XVII, means a combustion device or vapor recovery unit. Air pollution control equipment also means alternative emissions control equipment and pollution prevention devices and processes intended to reduce uncontrolled actual emissions that comply with the requirements of Section XVII.B.2.e.

~~XVII.A.2. “Atmospheric”, when used to modify the term “condensate storage tank”, means a type of condensate storage tank that vents, or is designed to vent, to the atmosphere.~~

XVII.A.2. “Approved Instrument Based Monitoring Method” as used in this Section XVII. means an infra-red camera, Method 21, or other Division approved instrument based monitoring device or method. If an owner/operator elects to use a Division approved Continuous Emission Monitoring program, the Division may approve a streamlined inspection and reporting program for such operations. Any instrument based monitoring method approved by the Division under this definition must be at least as effective as Method 21 or an infra-red camera.

XVII.A.3. “Auto-Igniter” means a device which will automatically attempt to relight the pilot flame in the combustion chamber of a control device in order to combust volatile organic compound emissions.

XVII.A.3. “Condensate Storage Tank” means any production tank or series of production tanks that are manifolded together that store condensate.

XVII.A.4. “Component” means each pump seal, compressor seal, flange, pressure relief device, connector, open ended line, and valve that contains or contacts a process stream with hydrocarbons. Process streams consisting of glycol, amine, produced water, or methanol are not components for purposes of this Section XVII.

XVII.A.5. “Connector” means flanged, screwed, or other jointed fittings used to connect two pipes or a pipe and a piece of process equipment or that close an opening in a pipe that could be connected to another pipe. Joined fittings welded completely around the circumference of the interface are not considered connectors.

XVII.A.6. “Date of First Production” means the date reported to the COGCC as the “first date of production.”

XVII.A.7. “Glycol Natural Gas Dehydrator” means any device in which a liquid glycol (including ethylene glycol, diethylene glycol, or triethylene glycol) absorbent directly contacts a natural gas stream and absorbs water.

XVII.A.8. “Multi-Well Site” means a common well pad from which multiple wells may be drilled to various bottomhole locations.

XVII.A.9. “Natural Gas Compressor Station” means a facility which contains one or more compressors designed to compress natural gas from well pressure to gathering system pressure and recompress natural gas prior to processing.

XVII.A.10. “Normal Operation” means all periods of operation, excluding malfunction as defined in Section I.G of the Common Provisions regulation. For storage tanks at well production facilities, normal operation includes but is not limited to liquid dumps from the separator.

XVII.A.11. “Stabilized” when used to refer to crude oil, condensate, intermediate hydrocarbon liquids, or produced water means that the vapor pressure of the liquid is sufficiently low to prevent the production of vapor phase upon transferring the liquid to an atmospheric pressure in a storage tank, and that any emissions that occur are limited to those commonly referred to within the industry as working, breathing, and standing losses.

XVII.A.12. “Storage Tank” means any fixed roof storage vessel or series of storage vessels that are manifolded together via liquid line. Storage vessel is as defined in 40 CFR Part 60, Subpart OOOO. Storage tanks may be located at a well production facility or other location.

XVII.A.13. “Unsafe to Monitor” means a component is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of such monitoring.

XVII.A.14. “Visible Emissions” means observations of smoke for any period or periods of duration greater than or equal to one (1) minute in any fifteen (15) minute period during normal operation. Visible emissions do not include radiant energy or water vapor.

XVII.A.15. “Well Production Facility” means all equipment at a single stationary source directly associated with one or more oil wells or gas wells. This equipment includes, but is

not limited to, equipment used for storage, separation, treating, dehydration, artificial lift, combustion, compression, pumping, metering, monitoring, and flowline.

XVII.B. (State Only) General Provisions

XVII.B.1. General requirements for prevention of emissions and good air pollution control equipment, prevention of leakage, and flares and combustion devicespractices for all oil and gas exploration and production operations, well production facilities, natural gas compressor stations, and natural gas processing plants.

XVII.B.1.a.~~XVII.B.1.b.~~ All intermediate hydrocarbon liquid~~condensate~~ collection, storage, processing, and handling operations, regardless of size, shall be designed, operated, and maintained so as to minimize emission of volatile organic compounds to the atmosphere to the extent reasonably practicable.

XVII.B.1.b. At all times, including periods of start-up and shutdown, the facility and air pollution control equipment shall be maintained and operated in a manner consistent with good air pollution control practices for minimizing emissions. Determination of whether or not acceptable operating and maintenance procedures are being used will be based on information available to the Division, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

XVII.B.2. General requirements for air pollution control equipment, flares, and combustion devices used to comply with Section XVII.

XVII.B.2.a.~~XVII.B.1.a.~~ All air pollution control equipment shall be operated and maintained pursuant to manufacturer specifications or equivalent to the extent practicable, and consistent with technological limitations and good engineering and maintenance practices. The owner or operator shall keep manufacturer specifications or equivalent on file. In addition, all such air pollution control equipment shall be adequately designed and sized to achieve the control efficiency rates required by this Section XVII and to handle reasonably foreseeable fluctuations in emissions of volatile organic compounds and hydrocarbons during normal operations. Fluctuations in emissions that occur when the separator dumps into the tank are reasonably foreseeable.

XVII.B.2.b.~~XVII.B.1.c.~~ If a flare or other combustion device is used to control emissions of hydrocarbons~~volatile organic compounds to comply with Section XVII~~, it shall be enclosed, have no visible emissions during normal operations, and be designed so that an observer can, by means of visual observation from the outside of the enclosed flare or combustion device, or by other ~~convenient~~ means approved by the Division, determine whether it is operating properly.

XVII.B.2.c.~~XVII.B.1.d.~~ Any of the effective dates for installation of controls on condensate~~storage~~ tanks, dehydrators, and/or internal combustion engines may be extended at the air pollution control Division's discretion for good cause shown.

XVII.B.2.d. Auto-igniters

All combustion devices used to control emissions of hydrocarbons shall be equipped with and operate an auto-igniter as follows:

XVII.B.2.d.(i) All combustion devices installed on or after May 1, 2014, will be equipped with an operational auto-igniter upon installation of the combustion device.

XVII.B.2.d.(ii) All combustion devices installed before May 1, 2014, will be equipped with an operational auto-igniter by or before May 1, 2016, or after the next combustion device planned shutdown, whichever comes first.

XVII.B.2.e.XVII.B.2. Alternative emissions control equipment shall qualify as air pollution control equipment, and may be used in lieu of, or in combination with, combustion devices and vapor recovery units to achieve the emission reductions required by this Section XVII, if the Division approves the equipment, device or process. As part of the approval process the Division, at its discretion, may specify a different control efficiency than the control efficiencies required by this Section XVII.

XVII.B.3. Oil refineries are not subject to ~~this section of the rule~~Section XVII.

XVII.B.4. ~~Condensate tanks, Glycol natural gas~~ dehydrators and internal combustion engines that are subject to an emissions control requirement in a federal maximum achievable control technology ("MACT") standard under 40 CFR Part 63, a Best Available Control Technology ("BACT") limit, or a New Source Performance Standard ("NSPS") under 40 CFR Part 60 are not subject to this Section XVII.

XVII.C. (State Only) Emission reduction from ~~condensate~~-storage tanks at oil and gas exploration and production operations, well production facilities, natural gas compressor stations, ~~natural gas drip stations~~ and natural gas processing plants.

XVII.C.1. Control requirements for storage tanks

XVII.C.1.a. Beginning May 1, 2008, owners or operators of all ~~atmospheric condensate~~ storage tanks storing condensate with uncontrolled actual emissions of volatile organic compounds equal to or greater than twenty (20) tons per year based on a rolling twelve-month total ~~shall must~~ operate air pollution control equipment that has an average control efficiency of at least 95% for VOCs ~~on such tanks~~.

XVII.C.1.b. Owners or operators of all storage tanks with uncontrolled actual emissions of volatile organic compounds equal to or greater than six (6) tons per year based on a rolling twelve-month total must operate air pollution control equipment that achieves an average hydrocarbon control efficiency of 95%. If a combustion device is used, it shall have a design destruction efficiency of at least 98% for hydrocarbons.

XVII.C.1.b.(i) A storage tank constructed on or after May 1, 2014, must be in compliance by the date that the storage tank commences operation.

XVII.C.1.b.(ii) A storage tank constructed before May 1, 2014, must be in compliance by May 1, 2015.

XVII.C.1.b.(iii) A storage tank not otherwise subject to Sections XVII.C.1.b.(i) or XVII.C.1.b.(ii), above, that increases uncontrolled actual emissions to six tons VOC or more per year on a rolling twelve month basis after May 1,

2014, must be in compliance within sixty days of discovery of the emissions increase.

XVII.C.1.c. Control requirements within 90 days of the date of first production.

XVII.C.1.c.(i) Beginning May 1, 2014, owners or operators of storage tanks at well production facilities shall collect and control emissions by routing emissions to operating air pollution control equipment during the first 90 calendar days after the date of first production. The air pollution control equipment shall achieve an average hydrocarbon control efficiency of 95%. If a combustion device is used, it shall have a design destruction efficiency of at least 98% for hydrocarbons. Except that this requirement does not apply to storage tanks that are projected to have emissions less than 1.5 tons of VOC during the first 90 days after the date of first production.

XVII.C.1.c.(ii) The air pollution control equipment and any associated monitoring equipment required pursuant to Section XVII.C.1.c., above may be removed at any time after the first 90 calendar days as long as the source can demonstrate that uncontrolled actual emissions from the storage tank are below the threshold in Section XVII.C.1.b., above.

XVII.C.2. ~~For condensate storage tanks with past, uncontrolled actual emissions of volatile organic compounds of less than 20 tons per year based on a rolling twelve-month total that may become subject to Section XVII.C.1. by virtue of the addition of a newly drilled well or the recompletion or stimulation of an existing well, owners or operators of such tanks shall have until 90 days after the date of 1st production of the newly drilled, recompleted or stimulated well to install and operate any required air pollution control equipment. If the owner or operator determines that emissions of volatile organic compounds will be below the 20-ton per year threshold, the owner or operator shall notify the Division of this determination in writing and include an explanation of the methodology used to make this determination.~~

XVII.C.2. Capture requirements for storage tanks that are fitted with air pollution control equipment as required by Sections XII.D. or XVII.C.1.

XVII.C.2.a. Beginning on the applicable compliance date specified in Section XVII.C.1.b., owners and operators of storage tanks shall route all hydrocarbon emissions to air pollution control equipment, and shall operate without venting hydrocarbon emissions from the thief hatch (or other access point to the tank) or pressure relief device during normal operation unless venting is reasonably required for maintenance, gauging, or safety of personnel and equipment.

XVII.C.2.b. Beginning on the applicable compliance date specified in Section XVII.C.1.b., owners and operators of storage tanks shall develop, certify, and implement a documented Storage Tank Emission Management System (STEM) plan to identify appropriate strategies to minimize emissions from venting at thief hatches (or other access points to a storage tank) and pressure relief devices during normal operation. As part of STEM, owners and operators shall evaluate and employ appropriate control technologies, monitoring practices, operational practices, and/or other strategies designed to meet the requirements set forth in Section XVII.C.2.a., above, and will update the STEM plan as necessary to achieve or maintain compliance. Owners and operators are not required to develop and implement STEM for storage tanks containing only stabilized liquids. The minimum elements of STEM are listed below.

XVII.C.2.b.(i) STEM must include a monitoring strategy that incorporates the minimum monitoring frequency set forth in Section XVII.F.5.e., procedures for evaluating ongoing storage tank emission capture performance, and, if applicable, the selected strategies.

XVII.C.2.b.(ii) STEM must include a certification by the owner or operator that the selected STEM strategy or strategies are designed to minimize emissions from storage tanks and associated equipment components at the facility or facilities, including thief hatches and pressure relief devices.

XVII.C.3. Monitoring

~~:-The owner or operator of any condensate storage tank that is required to control volatile organic compound emissions pursuant to this Section XVII.C. shall visually inspect or monitor the Air Pollution Control Equipment to ensure that it is operating at least as often as condensate is loaded out from the tank, unless a more frequent inspection or monitoring schedule is followed. In addition, if a flare or other combustion device is used, the owner or operator shall visually inspect the device for visible emissions at least as often as condensate is loaded out from the tank.~~The monitoring strategy of each STEM plan must include monitoring in accordance with Approved Instrument Based Monitoring Methods, as specified in Section XVII.F.5.

XVII.C.3.a. In addition to any applicable Approved Instrument Based Monitoring Methods, audio, visual, olfactory ("AVO") inspection of the storage tank and any associated equipment (i.e. separator, air pollution control equipment, or other pressure reducing equipment), must be completed as often as liquids are loaded out from the storage tank. However, AVO inspection is required no more frequently than every seven (7) days or less frequently than every thirty (30) days. AVO monitoring is not required for components and tanks that are unsafe to monitor. AVO inspection must include, at a minimum:

XVII.C.3.a.(i) Visual inspection of any thief hatch, pressure relief valve, or other access point to ensure that they are closed and properly sealed;

XVII.C.3.a.(ii) Visual inspection or monitoring of the air pollution control equipment to ensure that it is operating, including that the pilot light is lit on combustion devices used as air pollution control equipment;

XVII.C.3.a.(iii) If a flare or other combustion device is used, visual inspection of the auto-igniter and valves for piping of gas to the pilot light, to ensure they are functioning properly;

XVII.C.3.a.(iv) Visual inspection of the air pollution control equipment to ensure that the valves for the piping from the storage tank to the air pollution control equipment are open; and

XVII.C.3.a.(v) If a flare or other combustion device is used, inspection of the device for the presence or absence of smoke. If smoke is observed, either the equipment will be immediately shut-in to investigate the potential cause for smoke and perform repairs, as necessary, or Method

22 shall be conducted to determine whether visible emissions are present for a period of at least one (1) minute in fifteen (15) minutes.

XVII.C.4. Recordkeeping

The owner or operator of each storage tank subject to XII.D. or XVII.C. must maintain records of STEM as applicable, including the plan, any updates, and the certification, to be made available to the Division upon request. In addition, for a period of two years, the owner or operator must maintain records of any required monitoring and make them available to the Division upon request, including:

- XVII.C.4.a. The AIRS ID for the storage tank.
- XVII.C.4.b. The date and duration of any period where the thief hatch, pressure relief device, or other access point are found to be venting hydrocarbon emissions.
- XVII.C.4.c. The date and duration of any period where the air pollution control equipment is not operating.
- XVII.C.4.d. Where a flare or other combustion device is being used, the date and result of any Method 22 test.
- XVII.C.4.e. The timing of and efforts made to eliminate venting, restore operation of air pollution control equipment, and mitigate visible emissions.

XVII.D. (State Only) Emission reductions from glycol natural gas dehydrators

XVII.D.1. Beginning May 1, 2008, still vents and vents from any flash separator or flash tank on a glycol natural gas dehydrator located at an oil and gas exploration and production operation, natural gas compressor station, drip station or gas-processing plant subject to control requirements pursuant to Section XVII.D.2., shall reduce uncontrolled actual emissions of volatile organic compounds by at least 90 percent through the use of a condenser or air pollution control equipment.

XVII.D.2. The control requirement in Section XVII.D.1. shall apply where:

XVII.D.2.a. Actual uncontrolled emissions of volatile organic compounds from the glycol natural gas dehydrator are equal to or greater than two tons per year; and

XVII.D.2.b. The sum of actual uncontrolled emissions of volatile organic compounds from any single glycol natural gas dehydrator or grouping of glycol natural gas dehydrators at a stationary source is equal to or greater than 15 tons per year. To determine if a grouping of dehydrators meets or exceeds the 15 tons per year threshold, sum the total actual uncontrolled emissions of volatile organic compounds from all individual dehydrators at a stationary source, including those with emissions less than two tons per year.

XVII.D.3. Beginning May 1, 2015, still vents and vents from any flash separator or flash tank on a glycol natural gas dehydrator located at an oil and gas exploration and production operation, natural gas compressor station, and drip station or gas-processing plant subject to control requirements pursuant to Section XVII.D.4., shall reduce uncontrolled actual emissions of hydrocarbons by at least 95 percent on a rolling twelve-month basis through the use of a condenser or air pollution control equipment. If a

combustion device is used, it shall have a design destruction efficiency of at least 98% for hydrocarbons.

XVII.D.4. The control requirement in Section XVII.D.3. shall apply where:

XVII.D.4.a. Actual uncontrolled emissions of volatile organic compounds from a single new glycol natural gas dehydrator are equal to or greater than two tons per year; or

XVII.D.4.b. Actual uncontrolled emissions of volatile organic compounds from a single existing glycol natural gas dehydrator are equal to or greater than six (6) tons per year, or two (2) tons per year if the glycol natural gas dehydrator is located within 1,320 feet of a building unit or designated outside activity area.

XVII.D.4.d. For purposes of Section XVII.D.4:

XVII.D.4.d.(i) Building Unit shall mean a residential building unit, and every five thousand (5,000) square feet of building floor area in commercial facilities or every fifteen thousand (15,000) square feet of building floor area in warehouses that are operating and normally occupied during working hours.

XVII.D.4.d.(ii) A designated outside activity area shall mean an outdoor venue or recreation area, such as a playground, permanent sports field, amphitheater, or other similar place of public assembly owned or operated by a local government, which the local government seeks to have established as a Designated Outside Activity Area; or an outdoor venue or recreation area where ingress to or egress from could be impeded in the even of an emergency condition at an oil and gas location less than three hundred and fifty (350) feet from the venue due to the configuration of the venue and the number of persons known or expected to simultaneously occupy the venue on a regular basis.

XVII.E. Control of emissions from new, modified, existing, and relocated natural gas fired reciprocating internal combustion engines.

XVII.E.1. (State Only) The requirements of this Section XVII.E. shall not apply to any engine having actual uncontrolled emissions below permitting thresholds listed in Regulation Number 3, Part B.

XVII.E.2. (State Only) New, Modified and Relocated Natural Gas Fired Reciprocating Internal Combustion Engines

XVII.E.2.a. Except as provided in Section XVII.E.2.b. below, the owner or operator on any natural gas fired reciprocating internal combustion engine that is either constructed or relocated to the state of Colorado from another state, on or after the date listed in the table below shall operate and maintain each engine according to the manufacturer's written instructions or procedures to the extent practicable and consistent with technological limitations and good engineering and maintenance practices over the entire life of the engine so that it achieves the emission standards required in Section XVII.E.2.b. Table 1, below.

XVII.E.2.b. Actual emissions from natural gas fired reciprocating internal combustion engines shall not exceed the emission performance standards in Table 1, below as expressed in units of grams per horsepower-hour (G/hp-hr)

TABLE 1				
Maximum Engine Hp	Construction or Relocation Date	Emission Standards is G/hp-hr		
		NOx	CO	VOC
< 100 Hp	Any	NA	NA	NA
≥100 Hp and < 500 Hp	On or after January 1, 2008	2.0	4.0	1.0
	On or after January 1, 2011	1.0	2.0	0.7
≥500 Hp	On or after January 1, 2011	1.0	2.0	0.7
	On or after July 1, 2007	2.0	4.0	1.0
	On or after July 1, 2010	1.0	2.0	0.7
	On or after July 1, 2010	1.0	2.0	0.7

XVII.E.3. Existing Natural Gas Fired Reciprocating Internal Combustion Engines

XVII.E.3.a. (Regional Haze SIP) Rich Burn Reciprocating Internal Combustion Engines

XVII.E.3.a.(i) Except as provided in Sections XVII.3.1.(i)(b) and (c) and XVII.E.3.a.(ii), all rich burn reciprocating internal combustion engines with a manufacturer's name plate design rate greater than 500 horsepower, constructed or modified before February 1, 2009 shall install and operate both a non-selective catalytic reduction system and an air fuel controller by July 1, 2010. A rich burn reciprocating internal combustion engine is one with a normal exhaust oxygen concentration of less than 2% by volume.

XVII.E.3.a.(i)(a) All control equipment required by this Section XVII.E.3.a. shall be operated and maintained pursuant to manufacturer specifications or equivalent to the extent practicable, and consistent with technological limitations and good engineering and maintenance practices. The owner or operator shall keep manufacturer specifications or equivalent on file.

XVII.E.3.a.(i)(b) Internal combustion engines that are subject to an emissions control requirement in a federal maximum achievable control technology ("MACT") standard under 40 CFR Part 63, a Best Available Control Technology ("BACT") limit, or a New Source Performance Standard under 40 CFR Part 60 are not subject to this Section XVII.E.3.a.

XVII.E.3.a.(i)(c) The requirements of this Section XVII.E.3.a. shall not apply to any engine having actual uncontrolled emissions permitting thresholds listed in Regulation Number 3, Part B.

XVII.E.3.a.(ii) Any rich burn reciprocating internal combustion engine constructed or modified before February 1, 2009, for which the owner or operator demonstrates to the Division that retrofit technology cannot be installed at a cost of less than \$ 5,000 per ton of combined volatile organic compound and nitrogen oxides emission reductions (this value shall be adjusted for future applications according to the current day consumer price index) is exempt complying with Section XVII.E.3.a. Installation costs and the best information available for determining control efficiency shall be considered in determining such costs. In order to qualify for such exemption, the owner or operator must submit an application making such a demonstration, together with all supporting documents, to the Division by August 1, 2009.

XVII.E.3.b. (State Only) Lean Burn Reciprocating Internal Combustion Engines

XVII.E.3.b.(i) Except as provided in Section XVII.E.3.b.(ii), all lean burn reciprocating internal combustion engines with a manufacturer's nameplate design rate greater than 500 horsepower shall install and operate an oxidation catalyst by July 1, 2010. A lean burn reciprocating internal combustion engine is one with a normal exhaust oxygen concentration of 2% by volume, or greater.

XVII.E.3.b.(ii) Any lean burn reciprocating internal combustion engine constructed or modified before February 1, 2009, for which the owner or operator demonstrates to the Division that retrofit technology cannot be installed at a cost of less than \$ 5,000 per ton of volatile organic compound emission reduction (this value shall be adjusted for future applications according to the current day consumer price index) is exempt complying with Section XVII.E.3.b.(i). Installation costs and the best information available for determining control efficiency shall be considered in determining such costs. In order to qualify for such exemption, the owner or operator must submit an application making such a demonstration, together with all supporting documents, to the Division by August 1, 2009.

XVII.F. (State Only) Leak detection and repair program for well production facilities, storage tanks, and compressor stations

XVII.F.1. Beginning January 1, 2015, owners and operators of well production facilities and compressor stations will identify and repair leaks from components at these facilities in accordance with the requirements of this Section XVII.F. The following shall apply in lieu of any directed inspection and maintenance program requirements established pursuant to Regulation Number 3, Part B, Section III.D.2.

XVII.F.2. Owners and operators of well production facilities or natural gas compressor stations that monitor components as part of this Section XVII.F. may opt to estimate emissions from components for the purpose of evaluating the applicability of component fugitive emissions to Regulation Number 3 by utilizing the emission factors defined as less than 10,000 ppmv of Table 2-8 of the 1995 EPA Protocol for Equipment Leak Emission Estimates (Document EPA-453/R-95-017).

XVII.F.3. Owners and operators of well production facilities or natural gas compressor stations shall utilize the Approved Instrument Based Monitoring Method and AVO program as outlined in Section XVII.F. AVO monitoring is not required of components and tanks that are unsafe to monitor or inaccessible to monitor, pursuant to XVII.F.5.g.

XVII.F.4. Inspection schedules for natural gas compressor stations

Beginning January 1, 2015, owners and operators of natural gas compressor stations shall inspect components for leaks using an Approved Instrument Based Monitoring Method, in accordance with the following Table 2, except for components subject to XVII.F.5.g. For purposes of this Section XVII.F.4., fugitive emissions shall be calculated using the emission factors of Table 2-4 of the 1995 EPA Protocol for Equipment Leak Emission Estimates (Document EPA-453/R-95-017), or another Division approved method.

TABLE 2	
<u>Fugitive VOC Emissions (tpy)</u>	<u>Inspection Frequency</u>
<u>> 0 and < 12</u>	<u>Annually</u>
<u>> 12 and < 50</u>	<u>Quarterly</u>
<u>> 50</u>	<u>Monthly</u>

XVII.F.5. Requirements for well production facilities and/or storage tanks

XVII.F.5.a. Beginning August 1, 2014, all new well production facilities shall have a documented pressure test performed on all equipment and piping prior to start up. Documentation of this 90 day testing and monitoring shall be provided in the first annual report to the Division, as required by Section XVII.F.9.

XVII.F.5.b. Beginning January 1, 2015, within 90 days of startup of all new well production facilities and/or storage tanks, owners and/or operators shall identify and repair leaks from components using an Approved Instrument Based Monitoring Method. Such action shall qualify as an inspection pursuant to the inspection frequency schedule in Table 3.

XVII.F.5.c. Consistent with the provisions of XVII.F.5.f., owners and operators of existing well production facilities and/or storage tanks shall identify and repair leaks using an Approved Instrument Based Monitoring Method, in accordance with the implementation schedule in XVII.F.5.e. Inspection frequency shall be determined according to Table 3.

XVII.F.5.d. Consistent with the provisions of XVII.F.5.f., owners and operators of new well production facilities and/or storage tanks shall identify and repair leaks from components using an Approved Instrument Based Monitoring Method beginning on January 1, 2015. Inspection frequency shall be determined according to Table 3.

XVII.F.5.e. The estimated uncontrolled actual emissions from storage tanks determine the frequency at which inspections must be performed. If no storage tanks are located at a well production facility or multi-well site, operators will rely on the potential to emit of VOC for all of the emissions sources, including emissions from components located at the facility. All components at a well production facility or storage tank must be inspected:

TABLE 3	
<u>Threshold (per XVII.F.5.e.) VOC Emissions (tpy, uncontrolled actual for sites with tanks or PTE for sites without tanks)</u>	<u>Inspection Frequency</u>
<u>> 0 and < 6</u>	<u>One time using Approved Instrument Based Monitoring Method and thereafter using monthly AVO</u>
<u>> 6 and < 12</u>	<u>Annually with monthly AVO</u>
<u>> 12 and < 50</u>	<u>Quarterly with monthly AVO</u>
<u>> 50</u>	<u>Monthly</u>
<u>Multi-well sites without storage tanks after April 15, 2014, that have a PTE > 20 tpy VOC</u>	<u>Monthly</u>

XVII.F.5.f. Phase-in of Approved Instrument Based Monitoring Methods

Owners and operators of existing well production facilities and/or storage tanks shall identify and repair leaks from components using an Approved Instrument Based Monitoring Method, in accordance with the following schedule:

XVII.F.5.f.(i) Beginning January 1, 2015, facilities with uncontrolled actual VOC emissions greater than 50 tpy or multi-well sites.

XVII.F.5.f.(ii) Beginning July 1, 2015, facilities with uncontrolled actual VOC emissions greater than 20 tpy but less than or equal to 50 tpy.

XVII.F.5.f.(iii) Beginning January 1, 2016, facilities with uncontrolled actual VOC emissions greater than 6 tpy but less than or equal to 20 tpy.

XVII.F.5.f.(iv) By July 1, 2016, facilities with uncontrolled actual VOC emissions less than or equal to 6 tpy.

XVII.F.5.g. If a component is difficult, unsafe, or inaccessible to monitor, the owner or operator shall not be required to monitor the component until it becomes feasible to do so.

XVII.F.5.g.(i) Difficult to monitor components are those that cannot be monitored without elevating the monitoring personnel more than two meters above a supported surface or are unable to be reached via a wheeled scissor-lift or hydraulic type scaffold that allows access to components up to 7.6 meters (25 feet) above the ground.

XVII.F.5.g.(ii) Unsafe to monitor components are those that cannot be monitored without exposing monitoring personnel to an immediate danger as a consequence of completing the monitoring.

XVII.F.5.g.(iii) Inaccessible to monitor components are those that are buried, insulated in a manner that prevents access to the components by

a monitor probe, or obstructed by equipment or piping that prevents access to the components by a monitor probe.

XVII.F.6. Leak detection requiring repair

Leaks shall be identified utilizing the methods listed in this Section XVII.F.6.a. through XVII.F.6.d. Only leaks detected pursuant to this Section XVII.F.6. shall require repair under Section XVII.F.

XVII.F.6.a. For Method 21 monitoring at existing facilities, a leak is any concentration of hydrocarbon above 2,000 parts per million (ppm), except for existing well production facilities where leak is defined as any concentration of hydrocarbon above 500 ppm.

XVII.F.6.b. For Method 21 monitoring at facilities constructed after May 1, 2014, a leak is any concentration of hydrocarbon above 500 ppm.

XVII.F.6.c. For infra-red camera and AVO monitoring, a leak is any detectable emissions not associated with normal equipment operation, such as pneumatic device actuation and crank case ventilation.

XVII.F.6.d. For other Division approved monitoring devices or methods, leak identification requiring repair will be established as set forth in the Division's approval.

XVII.F.7. Repair and remonitoring

XVII.F.7.a. First attempt to repair a leak shall be made no later than five (5) working days after discovery, unless parts are unavailable, the equipment requires shutdown to complete repair, or other good cause exists. If parts are unavailable, they shall be ordered promptly and the repair shall be made within fifteen (15) working days of receipt of the parts. If shutdown is required, the leak shall be repaired during the next scheduled shutdown. If delay is attributable to other good cause, repairs shall be completed within fifteen (15) working days after the cause of delay ceases to exist.

XVII.F.7.b. Within fifteen (15) working days of completion of a repair, the leak shall be remonitored to verify the repair was effective.

XVII.F.7.c. Leaks discovered pursuant to the leak detection methods of Section XVII.F. shall not be subject to enforcement by the Division unless the owner or operator fails to perform the required repairs in accordance with Section XVII.F.7.

XVII.F.7.d. For leaks identified using an Approved Instrument Based Monitoring Method, owners and operators have the option of either repairing the leak in accordance with the repair schedule set forth in Section XVII.F.7. or conducting follow-up monitoring using Method 21 within five (5) working days of the leak detected. If the follow-up Method 21 monitoring shows that the leak concentration is less than or equal to 2,000 ppm hydrocarbon for existing facilities (other than existing well production facilities), or 500 ppm for new facilities or existing well production facilities, then the emission shall not be considered a leak for purposes of this Section.

XVII.F.8. Recordkeeping

The owner or operator of each facility subject to the inspection and maintenance requirements in this Section XVII.F. shall maintain the following for a period of two (2) years and make them available to the Division upon request.

XVII.F.8.a. Documentation of the pre-start-up pressure tests for new well production facilities;

XVII.F.8.b. The date and site information for each inspection;

XVII.F.8.c. A list of the leaking components and the monitoring method used to determine the presence of the leak;

XVII.F.8.d. The date of first attempt to repair the leak and, if necessary, any additional attempt to repair the leak;

XVII.F.8.e. The date the leak was repaired;

XVII.F.8.f. The delayed repair list including the basis for placing leaks on the list;

XVII.F.8.g. The date the leak was remonitored to verify the effectiveness of the repair, and the results of the remonitoring; and

XVII.F.8.h. A list of identification numbers for components that are designated as unsafe or inaccessible to monitor, as described in Section XVII.F.5.g., an explanation for each component stating why the component is so designated, and the plan for monitoring such component(s).

XVII.F.9. Reporting

The owner or operator of each facility subject to the inspection and maintenance requirements in Section XVII.F. shall submit a single annual report on or before April 30th of each year summarizing inspection and maintenance activities at all of their subject facilities during the previous calendar year. This report shall contain at a minimum the following information:

XVII.F.9.a. The number of facilities inspected;

XVII.F.9.b. The total number of inspections;

XVII.F.9.c. The total number of leaks identified, broken out by component type;

XVII.F.9.d. The total number of leaks repaired;

XVII.F.9.e. The number of leaks on the delayed repair list as of December 31st; and

XVII.F.9.f. Each report shall be accompanied by a self-certification form. The form shall contain a certification by a responsible official of the truth, accuracy, and completeness of such form, report, or certification stating that, based on information and belief formed after reasonable

inquiry, the statements and information in the document are true, accurate, and complete.

XVII.G. (State Only) Control of emissions from well production facilities.

XVII.G.1. Well Operation and Maintenance.

On or after August 1, 2014, during normal operation gas coming off of a separator produced from any newly constructed, hydraulically fractured, or recompleted oil or gas well must be either routed to a gas gathering line or controlled by air pollution control equipment that achieves an average hydrocarbon control efficiency of 95% from the date of first production. If a combustion device is used, it shall have a design destruction efficiency of at least 98% of hydrocarbons.

XVII.H. (State Only) Venting during downhole well maintenance and unloading events.

XVII.H.1. Well Maintenance.

Beginning May 1, 2014, hydrocarbon emissions from flowing wells must be captured or controlled during downhole well maintenance or servicing activities, unless venting is necessary for safety.

XVII.H.1.a. Operators shall use best management practices to minimize the need for well venting associated with downhole well maintenance and liquids unloading. During liquids unloading events, any means of creating differential pressure will first be used to attempt to unload the liquids from the well without venting. If these methods are not successful in unloading the liquids from the well, the well may be vented to the atmosphere to create the necessary differential pressure to bring the liquids to the surface.

XVII.H.1.b. Venting will be minimized to the extent possible, using best management practices during the well maintenance and liquids unloading events in XVII.H.1.a. The owner and/or operator shall be present on-site during any planned well maintenance and liquids unloading event in XVII.H.1.a. and shall ensure that any venting to the atmosphere is limited to the maximum extent practicable.

XVII.H.1.c. Records of the cause, date, time, and duration of venting events under this Section XVII.H. will be kept and made available to the Division upon request.

XVIII. (State Only) Natural Gas-Actuated Pneumatic Controllers Associated with Oil and Gas Operations ~~in the 8-Hour Ozone Control Area or Any Ozone Nonattainment or Attainment/Maintenance Area~~

XVIII.A. _____ Applicability

This section applies to pneumatic controllers that are actuated by natural gas, and located at, or upstream of natural gas processing plants (upstream activities include: oil and gas exploration and production operations, natural gas compressor stations, and/or natural gas drip stations) ~~in the 8-Hour Ozone Control Area or any Ozone Nonattainment or Attainment/Maintenance Area.~~

XVIII.B. _____ Definitions

XVIII.B.1. "Affected Operations" shall mean pneumatic controllers that are actuated by natural gas, and located at, or upstream of natural gas processing plants (upstream activities include: oil and gas exploration and production operations, natural gas compressor stations, and/or natural gas drip stations).

XVIII.B.2. "Enhanced Maintenance" is specific to high-bleed devices and shall include but is not limited to cleaning, tuning, and repairing leaking gaskets, tubing fittings, and seals; tuning to operate over a broader range of proportional band; and eliminating unnecessary valve positioners.

XVIII.B.3. "High-Bleed Pneumatic Controller" shall mean a pneumatic controller that is designed to have a constant bleed rate that emits in excess of 6 standard cubic feet per hour (scfh) of natural gas to the atmosphere.

XVIII.B.4. "Low-Bleed Pneumatic controller" shall mean a pneumatic controller that is designed to have a constant bleed rate that emits less than or equal to 6 scfh of natural gas to the atmosphere.

XVIII.B.5. "Natural Gas Processing Plant" shall mean any processing site engaged in the extraction of natural gas liquids from field gas, fractionation of mixed natural gas liquids to natural gas products, or both.

XVIII.B.6. "No-bleed Pneumatic Controller" shall mean any pneumatic controller that is not using hydrocarbon gas as the valve's actuating gas.

XVIII.B.6. "Pneumatic Controller" shall mean an instrument that is actuated using natural gas pressure and used to control or monitor process parameters such as liquid level, gas level, pressure, valve position, liquid flow, gas flow, and temperature.

XVIII.C. _____ Emission Reduction Requirements

The owners and operators of affected operations shall reduce emissions of volatile organic compounds from pneumatic controllers associated with affected operations as follows:

XVIII.C.1. _____ In the 8-Hour Ozone Control Area:

XVIII.C.1.a. All pneumatic controllers placed in service on or after February 1, 2009, shall emit VOCs in an amount equal to or less than a low-bleed pneumatic controller, unless allowed pursuant to Section XVIII.C.31.c.

XVIII.C.2.1.b. All high-bleed pneumatic controllers in service prior to February 1, 2009 shall be replaced or retrofit such that VOC emissions are reduced to an amount equal to or less than a low-bleed pneumatic controller, by May 1, 2009, unless allowed pursuant to Section XVIII.C.31.c.

XVIII.C.31.c. All high-bleed pneumatic controllers that must remain in service due to safety and/or process purposes must have Division approval and comply with Sections XVIII.D. and XVIII.E.

XVIII.C.3-a.1.c.(i) For high-bleed pneumatic controllers in service prior to February 1, 2009, the owner/operator shall submit justification for high-bleed pneumatic controllers to remain in service due to safety and /or process purposes by March 1, 2009. The Division shall be deemed to have approved the justification if it does not object to the owner/operator within 30-days upon receipt.

XVIII.C.3-b.1.c.(ii) For high-bleed pneumatic controllers placed in service on or after February 1, 2009, the owner/operator shall submit justification for high-bleed pneumatic controllers to be installed due to safety and /or process purposes prior to installation. The Division shall be deemed to have approved the justification if it does not object to the owner/operator within 30-days upon receipt.

XVIII.C.2. Statewide:

XVIII.C.2.a. All pneumatic controllers placed in service on or after May 1, 2014, shall:

XVIII.C.2.a.(i) Emit VOCs in an amount equal to or less than a low-bleed pneumatic controller, unless allowed pursuant to Section XVIII.C.2.c.; or

XVIII.C.2.a.(ii) Utilize no-bleed pneumatic controllers where on-site electrical grid power is being used and is technically and economically feasible.

XVIII.C.2.b. All high-bleed pneumatic controllers in service prior to May 1, 2014, shall be replaced or retrofitted by May 1, 2015, such that VOC emissions are reduced to an amount equal to or less than a low-bleed pneumatic controller, unless allowed pursuant to Section XVIII.C.2.c.

XVIII.C.2.c. All high-bleed pneumatic controllers that must remain in service due to safety and/or process purposes must have Division approval and comply with Sections XVIII.D. and XVIII.E.

XVIII.C.2.c.(i) For high-bleed pneumatic controllers in service prior to May 1, 2014, the owner/operator shall submit justification for high-bleed pneumatic controllers to remain in service due to safety and/or process purposes by March 1, 2015. The Division shall be deemed to have approved the justification if it does not object to the owner/operator within 30-days upon receipt.

XVIII.C.2.c.(ii) For high-bleed pneumatic controllers placed in service on or after May 1, 2014, the owner/operator shall submit justification for high-bleed

pneumatic controllers to be installed due to safety and/or process purposes prior to installation. The Division shall be deemed to have approved the justification if it does not object to the owner/operator within 30-days upon receipt.

XVIII.D. Monitoring

This section applies only to high-bleed pneumatic controllers identified in SectionSections XVIII.C.31.c. and XVIII.C.2.c.

XVIII.D.1. In the 8-Hour Ozone Control Area:

XVIII.D.1.a. Effective May 1, 2009, each high-bleed pneumatic controller shall be physically tagged by the owner/operator identifying it with a unique high-bleed pneumatic controller number that is assigned and maintained by the owner/operator.

XVIII.D.2.1.b. Effective May 1, 2009, each high-bleed pneumatic controller shall be inspected on a monthly basis, perform necessary enhanced maintenance as defined in Section XVIII.B.2 , and maintain the device according to manufacturer specifications to ensure that the controller's VOC emissions are minimized.

XVIII.D.2. Statewide:

XVIII.D.2.a. Effective May 1, 2015, each high-bleed pneumatic controller shall be physically tagged by the owner/operator identifying it with a unique high-bleed pneumatic controller number that is assigned and maintained by the owner/operator.

XVIII.D.2.b. Effective May 1, 2015, each high-bleed pneumatic controller shall be inspected on a monthly basis, perform necessary enhanced maintenance as defined in Section XVIII.B.2 , and maintain the device according to manufacturer specifications to ensure that the controller's VOC emissions are minimized.

XVIII.E. Recordkeeping

This section applies only to high-bleed pneumatic controllers identified in SectionSections XVIII.C.31.c. and XVIII.C.2.c.

XVIII.E.1. The owner or operator of affected operations shall maintain a log of the total number of high-bleed pneumatic controllers and their associated controller numbers per facility, the total number of high-bleed pneumatic controllers per company and the associated justification that the high-bleed pneumatic controllers must be used pursuant to SectionSections XVIII.C.31.c. and XVIII.C.2.c. The log shall be updated on a monthly basis.

XVIII.E.2. The owner or operator shall maintain a log of enhanced maintenance which shall include, at a minimum, inspection dates, the date of the maintenance activity, high-bleed pneumatic controller number, description of the maintenance performed, results and date of any corrective action taken, and the printed name and signature of the individual performing the maintenance. The log shall be updated on a monthly basis.

XVIII.E.3. Records of enhanced maintenance of pneumatic controllers shall be maintained for a minimum of three years and readily made available to the ~~division~~Division upon request.